

INITIAL STATEMENT OF REASONS
PROPOSED AMENDMENTS TO APPLIANCE EFFICIENCY REGULATIONS

**CALIFORNIA CODE OF REGULATIONS,
TITLE 20, SECTIONS 1601 THROUGH 1607**

**CALIFORNIA ENERGY COMMISSION
Docket Number 11-AAER-2
October 7, 2011**

INTRODUCTION

Public Resources Code section 25402(c) mandates that the California Energy Commission (Energy Commission) reduce wasteful, uneconomic, inefficient, or unnecessary energy use by prescribing, by regulation, standards for minimum levels of operating efficiency for appliances. The Energy Commission first adopted appliance efficiency regulations in 1976 and has continued to revise those standards, and adopt new ones, since that time. The current regulations include provisions relating to the testing of appliances to determine efficiency, certification and reporting of data by manufacturers, standards establishing mandatory efficiency levels, and general provisions on the scope of the regulations and applicable definitions.

In the rulemaking proceeding of this Initial Statement of Reasons (ISOR) and Notice of Proposed Action (NOPA), the Energy Commission is proposing to adopt regulations, including efficiency standards, for battery charger systems for inclusion in the Appliance Efficiency Regulations, Sections 1601 – 1608, of Title 20 of the California Code of Regulations (CCR). Specifically, the Energy Commission is proposing to adopt efficiency standards for:

- larger battery charger systems;
- small battery charger systems;
- inductive charger systems; and
- battery backup and uninterruptable power supplies (UPS).

The proposed regulations cover both consumer and non-consumer battery charger systems, as those terms are defined in federal law, in a tiered approach and will apply to small battery charger systems that are consumer products manufactured on or after January 1, 2013, and apply to small battery chargers systems that are non-consumer products and to all large battery charger systems manufactured on or after January 1, 2017. This rulemaking also includes clarifications and/or corrections to the existing Appliance Efficiency Regulations based on the inclusion of these new standards.

The proposed regulations for battery charger systems include measurement of power consumption in active mode, maintenance mode, and no battery mode; power factor for larger battery charger systems; and labeling and marking requirements.

The Energy Commission also proposes to adopt self-contained lighting control regulations currently found in Title 24 of the CCR as appliance standards in the Appliance Efficiency Regulations. The proposed standards for self-contained lighting controls will have an effective date of January 1, 2013.

SPECIFIC PURPOSE, RATIONALE, AND NECESSITY OF EACH PROPOSED ADOPTION, AMENDMENT, AND REPEAL

The California economy and the health and safety of all of California's citizens depends on an adequate, reasonably-priced, and environmentally-sound energy supply. Growth in electricity demand impacts the reliability of California's electricity grid and has in some circumstances contributed to increasing electricity prices. The proposed regulations will reduce peak electricity demand by approximately 361 MWh after stock turnover.¹

Improvement in energy efficiency is the cheapest and most environmentally-friendly method to help reduce demand and the amount of new generation sources needed to meet that demand. Public Resources Code section 25402(c)(1) mandates that the Energy Commission adopt standards that prescribe minimum efficiency levels for appliances.

The efficiency standards in the proposed regulations will reduce the wasteful, uneconomic, inefficient, or unnecessary consumption of energy by improving the efficiency of various types of battery charger systems. The proposed regulations for lighting controls will do the same by controlling the use of lighting in a variety of settings and circumstances. The standards in the proposed regulations are based on feasible and attainable efficiencies. The standards are also cost-effective, as they do not result in any added total costs for consumers over the designed life of the products.

The following sections are directly affected by the proposed standards:

Section 1601. Scope.

Section 1601(l) is being amended to add "Self-Contained Lighting Controls." The specific purpose and rationale of adding lighting controls to the scope of the Appliance Efficiency Regulations of Title 20 of the CCR is to regulate such products under Title 20 this is necessary to prevent lighting controls that do not comply with the applicable Title 24 standards from being sold or offered for sale in California.

Section 1601(w) is being amended to add exceptions to the scope of battery charger systems being regulated. The specific purpose and rationale is to precisely define the scope of those types of battery chargers to which the regulations shall apply. These exceptions are necessary because electrically-powered motor vehicles, with some exceptions; Class II and III medical devices; battery chargers with greater than 300 volts; analyzers; and voltage and frequency independent uninterruptable power supplies are exempt due to having unique characteristics that were outside the scope of study and research conducted by the Energy Commission and

¹ www.energy.ca.gov/appliances/battery_chargers/documents/2010-10-11_workshop/2010-10-11_Battery_Charger_Title_20_CASE_Report_v2-2-2.pdf, pages 38 and 39.

the proposed test procedure. The exemption for exit signs is necessary because these products are already regulated under a federal standard.

“International Electrotechnical Commission (IEC) 62040-3 ed.2.0 (2011)” is being added as a document incorporated by reference for the specific purpose and rationale of incorporating by reference and providing the complete citation to a document referenced in Section 1601(w)(6). This is necessary to clarify the exact title, edition, and publisher of the document.

Section 1602. Definitions.

Section 1602(l)

Section 1602(l) is being amended to add “Self-Contained Lighting Controls” for the specific purpose and rationale of including within the scope of 1602(l) those definitions relevant to regulations relating to lighting controls being added to Sections 1604(l); 1605.1(l); 1605.2(l); 1605.3(l); 1606, Table X; and 1607(d)(13); this is necessary to precisely define the terms used in those sections.

“Astronomical time-switch control” is being added for the specific purpose and rationale of defining a product for which performance standards are being added in Section 1605.3(l)(2)(C) and is necessary to clarify the type of control to which those standards will apply.

“Automatic daylight control” is being added for the specific purpose and rationale of defining a product for which performance standards are being added in Section 1605.3(l)(2)(D) and is necessary to clarify the type of control to which those standards will apply.

“Automatic time-switch control” is being added for the specific purpose and rationale of defining a product for which performance standards are being added in Section 1605.3(l)(2)(B) and is necessary to clarify the type of control to which those standards will apply.

“Dimmer” is being added for the specific purpose and rationale of defining a product for which performance standards are being added in Section 1605.3(l)(2)(F) and is necessary to clarify the type of control to which those standards will apply.

“DIP switch” is being added for the specific purpose and rationale of defining a term used in one of the performance standards for occupant sensing devices in Section 1605.3(l)(2)(F)1.f and is necessary to clarify that performance standard.

“Lighting control system” is being added for the specific purpose and rationale of defining the kind of lighting control that is not regulated under the Appliance Efficiency Regulations of Title 20 of the California Code of Regulations, but rather under Title 24, and is necessary to clarify that these controls fall outside the scope of the proposed regulations.

“Lighting photo control” is being added for the specific purpose and rationale of defining a product for which a performance standard is being added in Section 1605.3(l)(2)(E) and is necessary to clarify the type of control to which those standards will apply.

“Occupant sensing device” is being added for the specific purpose and rationale of defining a product for which performance standards are being added in Section 1605.3(l)(2)(G) and is necessary to clarify the type of control to which those standards will apply.

“Motion sensor” is being added for the specific purpose and rationale of defining a type of occupant sensing device, for outdoor use, for which a performance standard is being added in Section 1605.3(l)(2)(G)2 and is necessary to clarify the type of device to which that standard will apply.

“Occupant sensor” is being added for the specific purpose and rationale of defining a type of occupant sensing device, for indoor use, for which performance standards are being added in Section 1605.3(l)(2)(G)3 – 5 and is necessary to clarify the type of device to which those standards will apply.

“Partial off” is being added for the specific purpose and rationale of defining a type of occupant sensing device for which performance standards are being added in Section 1605.3(l)(2)(G)4 and is necessary to clarify the type of device to which those standards will apply.

“Partial on” is being added for the specific purpose and rationale of defining a type of occupant sensing device for which performance standards are being added in Section 1605.3(l)(2)(G)3 and is necessary to clarify the type of device to which those standards will apply.

“Vacancy sensor” is being added for the specific purpose and rationale of defining a type of occupant sensing device for which performance standards are being added in Section 1605.3(l)(2)(G)5 and is necessary to clarify the type of device to which those standards will apply.

“Self-contained lighting control” is being added for the specific purpose and rationale of defining the scope of those products for which performance standards are being added in Section 1605.3(l)(2) and is necessary to clarify the types of controls to which those standards will apply.

“Wall box dimmer” is being added for the specific purpose and rationale of defining a term used in the performance standards for dimmers being added to Section 1605.3(l)(2)(F) and is necessary to clarify those performance standards.

Section 1602(w)

“Accumulated non-active energy” is being changed to “24-hour charge and maintenance energy” for the specific purpose and rationale of further defining the test procedure for small battery charger systems being added to Section 1604(w)(1) and the performance parameter for the standards for small battery charger systems being added to Table W-2 in Section 1605.3(w). This is necessary to clarify how small battery charger systems are to be tested and what results must be derived from that testing.

“Active mode” is being deleted for the specific purpose and rationale of removing a term that is no longer needed as this mode will no longer be one of the regulated characteristics of any of the battery charger systems within the proposed scope of the regulations. This is necessary to avoid confusion should this non-operative term remain in the regulations.

“À la carte charger” is being added for the specific purpose and rationale of defining a term to be added to the definition of “battery charger system” in Section 1602(w). This is necessary to clarify the type of product that will be considered a “battery charger system” and thus must comply with the applicable efficiency standards in Section 1605.3(w).

“Battery” or “battery pack” is being amended to delete the word “consumer” from the definition for the specific purpose and rationale of removing the consumer product-only restriction on these terms. This is necessary to clarify that the terms and definition apply to battery charger systems regardless of whether the system is or is not a consumer product.

“Battery analyzer” is being added for the specific purpose and rationale of defining a product that is excluded from the scope of the battery charger systems in Section 1601(w). This is necessary to clarify the type of product that will not be covered by the proposed regulations.

“Battery backup” or “uninterruptible power supply (UPS)” is being added for the specific purpose and rationale of defining a product for which efficiency standards are being added in Section 1605.3(w)(4) and is necessary to clarify the type of product to which those standards will apply.

“Battery charger system” is being amended for the specific purpose and rationale of including à la carte chargers with the scope of a battery charger system. This is necessary to clarify that à la carte chargers will be regulated as battery charger systems and must comply with the applicable efficiency standards.

“Battery maintenance mode (maintenance mode)” is being amended for the specific purpose and rationale of specifying that the term applies to a battery charger system, not just a battery charger. This is necessary to clarify the extent of the applicability of this term.

“Charge return factor” is being added for the specific purpose and rationale of defining a term used in the test procedure for large battery charger system standards being added in Section 1604(w)(2)(A)1, the performance parameters being added in Table W-1 of Section 1605.3(w)(1), and the data submittal requirements being added in Table X of Section 1606. This is necessary to clarify how large battery charger systems are to be tested and what results must be derived from that testing and reported to the Energy Commission.

“Inductive charger system” is being added for the specific purpose and rationale of defining a product for which efficiency standards are being added in Section 1605.3(w)(3) and is necessary to clarify the type of system to which those standards will apply.

“Large battery charger system” is being added for the specific purpose and rationale of defining a product for which efficiency standards are being added in Table W-1 of Section 1605.3(w)(1) and is necessary to clarify the type of system to which those standards will apply.

“Multi-voltage à la carte chargers” is being deleted for the specific purpose and rationale of deleting a term that is no longer relevant to the regulations due to the inclusion of “à la carte chargers” in the definition in Section 1602(w). This is necessary to avoid confusion should this non-operative term remain in the regulations.

“No battery mode” is being amended for the specific purpose and rationale of replacing the term “standby more (no load mode)” in order to harmonize the terminology in the regulations with those in the test methods in Section 1604(w). This is necessary to avoid confusion regarding the application of that test method.

“Power conversion efficiency” is being added for the specific purpose and rationale of defining one of the performance parameters in the standards for large battery charger systems being added in Table W-1 of Section 1605.3(w) and the data submittal requirements being added in Table X of Section 1606. This is necessary to clarify how large battery charger systems are to be tested and what results must be derived from that testing and reported to the Energy Commission.

“Small battery charger system” is being added for the specific purpose and rationale of defining a product for which efficiency standards are being added in Table W-1 of Section 1605.3(w)(2) and is necessary to clarify the type of system to which those standards will apply.

Section 1604. Test Methods for Specific Appliances.

Section 1604(l) Emergency Lighting is being amended for the specific purpose and rationale of adding “Self-Contained Lighting Controls” to the title and is necessary to clarify that such controls are part of the scope of that section.

Section 1604(l)(2) is being added for the specific purpose and rationale of explaining that there is no test method for self-contained lighting controls and is necessary to avoid confusion as to the existence of such a test method.

Section 1604(w)(1) is being amended for the specific purpose and rationale of updating the reference to the federal test procedure for consumer battery chargers and to specify that this test procedure applies only to small battery chargers being added to these regulations. This is necessary to ensure and clarify that Section 1604(w)(1) contains the correct federal test procedure reference and to clarify for which products that test procedure should be used.

Section 1604(w)(1)(A) – (C) is being added for the specific purpose and rationale of specifying which results shall be used in determining compliance with the efficiency standards being added to Section 1605.3(w)(2). This is necessary because the federal test procedure produces many distinct results and further clarification is needed to provide guidance to manufacturers on how to determine and report compliance with the standards in Section 1605.3(w)(2).

Section 1604(w)(2) is being amended for the specific purpose and rationale of deleting the word “California” and to add the word “large” to the title and the text. This is necessary to clarify that the test procedure applies only to large battery chargers being added to the regulations.

Section 1604(w)(2)(A) – (B) is being added for the specific purpose and rationale of specifying which results shall be used determining compliance with the efficiency standards being added to Section 1605.3(w)(1). This is necessary because the test method produces many distinct results and further clarification is needed to provide guidance to manufacturers on how to determine and report compliance with the standards in Section 1605.3(w)(1).

CFR, Title 10, Section 430.23 (2011) is being amended in the documents incorporated by reference section for the specific purpose and rationale of updating the reference to reflect the current

version of the federal test procedure for battery chargers. This is necessary to indicate the correct version of the test procedure.

Section 1605.1. Federal and State Standards for Federally-Regulated Appliances.

Section 1605.1(l) is being amended for the specific purpose and rationale of including “Self-Contained Lighting Controls” in the title, and is necessary to add self-contained lighting controls to the scope of Section 1605.1(l).

Section 1605.1(l)(1) is being added for the specific purpose and rationale of specifying that the efficiency standards contained in the new section apply only to emergency lighting, which is necessary for the sake of clarity.

Section 1605.1(l)(2) is being added for the specific purpose and rationale of specifying that the self-contained lighting controls are not federally-regulated products. This is necessary to clarify that the products are only state-regulated and that energy design standards for these products are contained in Section 1605.3(l).

Section 1605.2. State Regulations for Federally-Regulated Appliances.

Section 1605.2 is being amended for the specific purpose and rationale of including “Self-Contained Lighting Controls” in the title, and is necessary to add self-contained lighting controls to the scope of Section 1605.2(l).

Section 1605.2(l)(1) is being added for the specific purpose and rationale of specifying that there are no state energy efficiency standards for emergency lighting. This is necessary to clarify that such products are federally-regulated products with federal energy efficiency standards and that those standards are contained in Section 1605.1(l).

Section 1605.2(l)(2) is being added for the specific purpose and rationale of specifying that self-contained lighting controls are not federally-regulated products. This is necessary to clarify that the products are only state-regulated and that energy design standards for these products are contained in Section 1605.3(l).

Section 1605.3. State Regulations for Non-Federally-Regulated Appliances.

Section 1605.3 is being amended for the specific purpose and rationale of including “Self-Contained Lighting Controls” in the title, and is necessary to add self-contained lighting controls to the scope of Section 1605.2(l).

Section 1605.3(l)(1) is being added for the specific purpose and rationale of specifying that there are no state energy efficiency standards for emergency lighting. This is necessary to clarify that such products are federally-regulated products with federal energy efficiency standards and that those standards are contained in Section 1605.1(l).

Section 1605.3(l)(2) is being added for the specific purpose and rationale of requiring energy design standards for self-contained lighting controls and the date (January 1, 2013) which such controls manufactured on or thereafter must comply with those standards. This is necessary to ensure that self-contained lighting controls sold or offered for sale in California are equipped with various functions that will improve the energy-efficient operation of lighting controlled by such devices.

Section 1605.3(l)(2)(A) is being added for the specific purpose and rationale of setting general requirements that apply to all self-contained lighting controls. This is necessary to ensure that self-contained lighting controls sold or offered for sale in California are equipped with various functions that will improve the energy-efficient operation of lighting controlled by such devices.

Section 1605.3(l)(2)(B) is being added for the specific purpose and rationale of requiring that certain energy design be incorporated into all automatic time-switch controls. Paragraph 1 applies to residential automatic time-switch controls and Paragraph 2 applies to commercial time-switch controls. This is necessary to ensure that all such controls sold or offered for sale in California are equipped with these functions, which are necessary to improve the energy-efficient operation of lighting controlled by such devices.

Section 1605.3(l)(2)(C) is being added for the specific purpose and rationale of requiring that certain energy design standards be incorporated into all astronomical time-switch controls. This is necessary to ensure that all such controls sold or offered for sale in California are equipped with these functions, which are necessary to improve the energy-efficient operation of lighting controlled by such devices.

Section 1605.3(l)(2)(D) is being added for the specific purpose and rationale of requiring that certain energy design standards be incorporated into all automatic daylight controls. This is necessary to ensure that all such controls sold or offered for sale in California are equipped with these functions, which are necessary to improve the energy-efficient operation of lighting controlled by such devices.

Section 1605.3(l)(2)(E) is being added for the specific purpose and rationale of prohibiting lighting photo controls from having a mechanical device that permits disabling of the control. This is necessary to ensure that all such controls sold or offered for sale in California are equipped in this manner, which is necessary to improve the energy-efficient operation of lighting controlled by such devices

Section 1605.3(l)(2)(F) is being added for the specific purpose and rationale of requiring that certain energy design standards be incorporated into all dimmer controls. This is necessary to ensure that all such controls sold or offered for sale in California are equipped with these functions, which are necessary to improve the energy-efficient operation of lighting controlled by such devices.

Section 1605.3(l)(2)(G) and Table L-1 are being added for the specific purpose and rationale of requiring that certain energy design standards be incorporated into all occupant sensing devices, as well as specific standards for motion sensors; partial on and partial off sensors; and vacancy sensors. This is necessary to ensure that all such devices sold or offered for sale in California are equipped with these functions, which are necessary to improve the energy-efficient operation of lighting controlled by such devices.

Section 1605.3(w) is being added for the specific purpose and rationale of requiring energy efficiency standards for battery chargers systems. The specific purpose and rationale for these additions is to set standards for a variety of battery charger products with the goal of increasing the efficiency of, and in particular decrease the energy wasted by, these products. This is necessary to fulfill the Energy Commission's statutory mandate in Public Resources Code

section 25402 to reduce the wasteful, uneconomic, inefficient, and unnecessary consumption of energy, particularly for those appliances that require a significant amount of energy on a statewide basis.

Section 1605.3(w)(1) and Table W-1 are being added for the specific purpose and rationale of requiring that large battery charger systems meet certain energy efficiency standards, and setting the effective date of such standards.

Section 1605.3(w)(1) adds language making the standards in Table W-1 applicable to large battery charger systems manufactured on or after January 1, 2014.

Table W-1 sets forth the standards that must be met in various modes of operation and functionalities, including charger return factor, power conversion efficiency, power factor, maintenance mode, and no battery mode. These standards for large battery charger systems are needed to increase the efficiency of, and in particular decrease the energy wasted by, these products. This is necessary to fulfill the Energy Commission's statutory mandate in Public Resources Code section 25402 to reduce the wasteful, uneconomic, inefficient, and unnecessary consumption of energy, particularly for those appliances that require a significant amount of energy on a statewide basis.

Section 1605.3(w)(2) and Table W-2 are being added to set forth the energy efficiency standards for small battery charger systems and the effective date of such standards.

Section 1605.3(w)(2)(a) is being added for the specific purpose and rationale of making the standards in Table W-2 applicable to small battery charger systems that are consumer products manufactured on or after January 1, 2013. This is necessary to clarify when such products must comply with the applicable standards.

Section 1605.3(w)(2)(b) is being added for the specific purpose and rationale of making the standards in Table W-2 applicable to small battery charger systems that are not consumer products manufactured on or after January 1, 2017. This is necessary to clarify when such products must comply with the applicable standards.

Exception to 1605.3(w)(2) is being added for the specific purpose and rationale of exempting an à la carte charger, necessary as a replacement for a small battery charger system or a component thereof, from the initial compliance dates in Table W-2. This is necessary to allow such à la carte chargers to continue to be sold directly from manufacturers to consumer for repair of already purchased small battery charger systems without the manufacturer having to meet the standards in Table W-2 or to certify the à la carte chargers.

Table W-2 sets for the standards that must be met in various modes of operation and functionalities, including 24 hour charge and maintenance energy, maintenance mode and no battery mode. These standards for small battery charger systems are needed to increase the efficiency of, and in particular decrease the energy wasted by, these products. This is necessary to fulfill the Energy Commission's statutory mandate in Public Resources Code section 25402 to reduce the wasteful, uneconomic, inefficient, and unnecessary consumption of energy, particularly for those appliances that require a significant amount of energy on a statewide basis.

Section 1605.3(w)(3) is being added for the specific purpose and rationale of making the standards in Table W-2 – or requiring the use of less than 1 watt in maintenance mode, in no

battery mode, and per hour of testing in 24-hour charge and maintenance – applicable to inductive charger systems manufactured on or after January 1, 2013. These standards for inductive battery charger systems are needed to increase the efficiency of, and in particular decrease the energy wasted by, these products. This is necessary to fulfill the Energy Commission’s statutory mandate in Public Resources Code section 25402 to reduce the wasteful, uneconomic, inefficient, and unnecessary consumption of energy, particularly for those appliances that require a significant amount of energy on a statewide basis.

Section 1605.3(w)(4) is being added for the specific purpose and rationale of requiring that battery backup and uninterruptible power supplies consume no more than $0.8 + 0.0021 \times E_b$ watts in maintenance mode where E_b is the battery capacity in watt-hours. The added language makes this requirement applicable to such products that are consumer products manufactured on or after January 1, 2013, and applicable to such products that are not consumer products manufactured on or after January 1, 2017. These standards for battery backup and uninterruptible power supplies are needed to increase the efficiency of, and in particular decrease the energy wasted by, these products. This is necessary to fulfill the Energy Commission’s statutory mandate in Public Resources Code section 25402 to reduce the wasteful, uneconomic, inefficient, and unnecessary consumption of energy, particularly for those appliances that require a significant amount of energy on a statewide basis.

Section 1606. Filing by Manufacturers; Listing of Appliances in Database.

EXCEPTION 4 to Section 1606(a)(3)(D) is being added for the specific purpose and rationale of allowing manufacturers of large battery charger systems to certify multiple battery charger systems using the testing results of two or more representative battery charger system models, provided that all models so certified are designed to charge batteries of the same chemistry and design. This will be allowed until July 1, 2014. This is necessary in order to temporarily ease the initial testing and certification burden of the regulations on businesses certifying a large quantity of models with low sales volume.

Table X, Data Submittal Requirements, Appliance “L” is being amended to add “Self-Contained Lighting Controls” as an appliance for which the submittal of certain data is required. The amendment also adds language applicable to self-contained lighting controls in the existing columns for “Required Information” and “Permissible Answers.” The specific purpose and rationale of adding data submission requirements is to assist manufacturers in certifying self-contained lighting controls under the standards proposed in Section 1605.3(l). Such certification is necessary to demonstrate compliance with the standards proposed in 1605.3(l) and for such self-contained lighting controls to be lawfully sold or offered for sale in California.

Table X, Data Submittal Requirements, Appliance “W” is being amended to add “Small Battery Charger Systems” and “Large Battery Charger Systems” as appliances for which the submittal of certain data is required. The amendment also adds a language applicable to small and larger battery charger systems in the existing columns for “Required Information” and “Permissible Answers.” The specific purpose and rationale of adding data submission requirements is to assist manufacturers in certifying self-contained both small and larger battery charger systems under the standards proposed in Section 1605.3(w). Such certification is necessary to demonstrate compliance with the standards proposed in 1605.3(w) and for such battery charger systems to be lawfully sold or offered for sale in California.

Section 1606(4)(A)4.m. is being added for the specific purpose and rationale of defining which test results should be used for reporting information regarding small and large battery charger systems per Table X, Appliance “W,” which is necessary to clarify and ensure consistency in the reporting of test data to the Energy Commission.

Section 1607. Marking of Appliances.

Section 1607(d)(12) is being added to set forth labeling and marking requirements for battery charger systems. The specific purpose and rationale of these requirements is to instruct manufacturers on the manner and form which their battery charger systems must be labeled and marked to indicate compliance with the applicable standard(s) in Section 1605.3(w), Tables W-1 and W-2. This is necessary to ensure that consumers and regulators can easily verify whether a battery charger system does or does not meeting the applicable standard(s).

Section 1607(d)(13) is being added to set forth labeling and marking requirements for self-contained lighting controls. The specific purpose and rationale of these requirements is to instruct manufacturers on the manner and form which their self-contained lighting controls must be labeled and marked to indicate compliance with the applicable standard(s) in Section 1605.3(l). This is necessary to ensure that consumer and regulators can easily verify whether a self-contained lighting control does or does not meeting the applicable standard(s).

REASONS FOR MANDATING SPECIFIC ACTIONS, PROCEDURES, TECHNOLOGIES, OR EQUIPMENT; CONSIDERATION OF PERFORMANCE STANDARDS

The Energy Commission is not proposing prescriptive standards for battery charger systems; instead the proposed regulations set performance standards and include test methodologies for determining performance. As such, the efficiency standards do not mandate any particular actions or procedures, or the use of any particular technologies, but rather allow manufacturers to choose from various paths to produce compliant battery charger systems.

Separate standards are proposed for inductive charger systems. Inductive chargers use a wireless power supply and are a unique class of product. In some products, such as toothbrushes, wireless power delivery provides a great deal of utility, such as avoiding contact corrosion for products that are exposed to water and chemicals. This method of power delivery is inherently less efficient than direct wiring. To ensure the feasibility of implementing standards for inductive charging in this specific case, Energy Commission has determined that alternative compliance options for inductive chargers are necessary.

Separate standards are proposed for battery backup systems. These systems operate primarily in maintenance mode. Battery backup systems charge only batteries in the case of a power brownout or blackout and usually do not operate in active mode, therefore active mode energy savings are not significant. Thus the Energy Commission has determined to set regulations for backup battery chargers only for maintenance mode.

The proposed self-contained lighting control requirements are almost entirely prescriptive. The

standards are already in California law and are currently included as building efficiency standards in Title 24, Article 1, Subchapter 2, Section 119 of the CCR. Thus the standards have already been adopted via the rulemaking process for building standards. These prescriptive standards have been found to save energy and to be cost-effective across a broad range of installation scenarios. Performance standards for self-contained lighting controls cannot be reasonably implemented due to the broad range of installations and complexity of the final systems the controls are intended to be incorporated into. The prescriptive requirements are written broadly to incorporate a wide range of self-contained lighting control technologies and equipment. These standards are being proposed as additions to the Appliance Efficiency Regulations in Title 20 of the CCR to ensure that only those lighting controls that comply with the applicable standards will be sold or offered for sale in California.

STUDIES, REPORTS, AND DOCUMENTS RELIED UPON

2008 Building Energy Efficiency Standards, December 2008, Publication No. CEC-400-2008-001-CMF.²

Documents and Reports Relied Upon – 2008 Building Energy Efficiency Rulemaking – Docket # 07-BSTD-1.³

California Energy Commission Staff Report “Proposed Efficiency Standards for Battery Chargers and Self-Contained Lighting Controls, October 2011, Publication No. CEC-400-2011-001-SF.

Ecos Consulting (Suzanne Foster Porter, Paul Bendt, Jeffry Swofford, and Jonathan Carter Hebert), *Analysis of Standards Options for Battery Charger Systems*, BCS CASE Report Version 2.2.2, October 1, 2010, prepared for Pacific Gas and Electric Company, Southern California Gas Company, San Diego Gas and Electric, Southern California Edison.⁴

Ecos Consulting (Suzanne Foster Porter and Dave Denkenburger), *Comment Letter in Response to May 19, 2011 Committee Workshop*, May 27, 2011, prepared for Pacific Gas and Electric Company, Southern California Gas Company, San Diego Gas and Electric, Southern California Edison.⁵

Ecos Consulting (Suzanne Foster Porter and Philip Walters) *Proposed Title 20 Efficiency Standards For Battery Charger Systems*, March 3, 2011.⁶

² www.energy.ca.gov/2008publications/CEC-400-2008-001/CEC-400-2008-001-CMF.PDF

³ www.energy.ca.gov/title24/2008standards/rulemaking/documents/docs_relied_upon.html

⁴ www.energy.ca.gov/appliances/battery_chargers/documents/2010-10-11_workshop/2010-10-11_Battery_Charger_Title_20_CASE_Report_v2-2-2.pdf

⁵ www.energy.ca.gov/appliances/battery_chargers/documents/2011-05-19_workshop/comments/IOU_Battery_Charger_Comment_Letter_2011-05-27.pdf

⁶ www.energy.ca.gov/appliances/battery_chargers/documents/2011-03-03_workshop/presentations/Proposed_Standards_for_Battery_Chargers-Suzanne_Foster_Porter_and_Philip_Walters.pdf

Natural Resource Defense Council (Pierre DelForge), *NRDC Comments on CEC Battery Charger Proceeding*, May 31, 2011.⁷

U.S. Department of Energy, *Preliminary Technical Support Document: Energy Efficiency Program for Consumer Products and Commercial and Industrial Equipment: Battery Chargers and External Power Supplies*, September 2010.

U.S. Department of Energy, *Energy Conservation Program for Certain Consumer Appliances: Test Procedures for Battery Chargers and External Power Supplies*, June 1, 2011, 76 Federal Register 31750.

REASONABLE ALTERNATIVES, IF ANY, TO THE PROPOSED AMENDMENTS THAT WERE CONSIDERED, INCLUDING ALTERNATIVES TO LESSEN IMPACTS ON SMALL BUSINESS, AND REASONS FOR REJECTING THEM

The Energy Commission is proposing new minimum efficiency standards and amendments to the existing Appliance Efficiency Regulations. Before it adopts the proposed regulations, the Energy Commission must determine that no reasonable alternative it considered, or that has otherwise been identified and brought to its attention, would be more effective in carrying out the purpose for which the amendments are proposed or would be as effective as and less burdensome to affected private persons than the proposed amendments. To date, the Energy Commission has found no alternatives to the proposed action that would be more effective, or as effective and less burdensome.

The Energy Commission considered alternatives for self-contained lighting controls. However the purpose of the proposed self-contained lighting control regulations is to expand the authority of the current installation-based building code to a sales-based appliance code and not to change the product requirements. It was determined that adopting unaltered self-contained lighting control requirements would result in the minimum impact to businesses and consumers while maintaining maximum effectiveness.

The staff of the Energy Commission investigated two alternatives to the proposed battery charger systems regulations:

The first alternative was to choose more stringent energy efficiency limits for the appliances in the scope of this regulation. It was determined that this would increase the effectiveness of the regulations in terms of resulting energy savings but would be more burdensome to business and less cost-effective to consumers. Therefore, this alternative was rejected.

The second alternative was to choose a less stringent standard or to not adopt any standards at all. This alternative was less effective in terms of resulting energy savings and therefore was

⁷ www.energy.ca.gov/appliances/battery_chargers/documents/2011-05-19_workshop/comments/NRDC_Comments_on_Battery_Chargers_Proceeding.pdf

rejected. Any standard less than what is proposed would not achieve all feasible and cost-effective energy efficiency savings as mandated under the Public Resources Code.

FACTS, EVIDENCE, DOCUMENTS, TESTIMONY, OR OTHER EVIDENCE RELIED UPON TO SUPPORT THE INITIAL DETERMINATION, IN THE NOTICE OF PROPOSED ACTION THAT THE REGULATION WILL NOT HAVE A SIGNIFICANT ADVERSE ECONOMIC IMPACT ON BUSINESSES,

The basis for this determination is supported by the findings in the document titled "*California Energy Commission Staff Report "Proposed Efficiency Standards for Battery Chargers and Self-Contained Lighting Controls, Publication No.CEC-400-2011-001-SF."*

EFFORTS TO AVOID UNNECESSARY DUPLICATION OR CONFLICT WITH THE CODE OF FEDERAL REGULATIONS

The proposed regulations neither duplicate nor conflict with any federal regulation.

Although the U.S. Department of Energy in considering adopting regulations concerning the efficiency of consumer battery chargers, no such regulations currently exist, nor are there any conflicting federal requirements or standards for self-contained lighting controls. The Commission has harmonized the proposed test procedure for small battery chargers, proposed for Section 1604(w)(1), with the existing federal test procedure for consumer battery chargers, found in 10 CFR Section 430.23(aa) (Appendix Y to Subpart B of Part 430), to avoid conflict with federal regulations.